This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1(Currently Amended). An extractor for use in a micro-column, said extractor comprising:

a plurality of sensing regions on which electrons of <u>an</u> electron beam strike and being electrically conductive; [[and]]

insulating portions including insulating material for prevention of the electron flow or low-doped semiconductor for reduction of the electron flow and dividing each of said sensing regions, <u>and</u>

<u>an aperture configured in the center of the extractor so that electrons from an emitter can be passed through</u>

wherein the magnitude and the direction of misalignment of an aperture of the extractor with an electron emitter of the micro-column is determined by measuring and calculating the amount of the electrons on each of the sensing regions.

2(Original). The extractor for use in the micro-column as claimed in Claim 1, wherein said sensing regions include conductive material, such as metal or high-doped semiconductor.

3(Original). The extractor for use in the micro-column as claimed in Claim 1, wherein said sensing regions include p-n junctions.

4(Currently Amended). A method for aligning an [[extractor]] aperture <u>configured in the center of an extractor</u> with an electron emitter of the micro-column, the method comprising steps of:

sensing the electron beam emitted from the electron emitter at each of the sensing regions of the extractor as claimed in claim 1;

verifying the position of the sensing region being in a state of currently sensing electrons and the amount of the current flow;

calculating the relative position between the extractor aperture and the electron emitter on the basis of the verified sensing region and the amount of the current flow; and

moving said electron emitter, said extractor, or said electron emitter and said extractor according to said calculated data.

5(Original). The method as claimed in Claim 4, wherein the method further comprises a step of comparing the data calculated in said calculating step to previously-calculated data relating to alignment of the electron emitter with the extractor aperture, wherein if the alignment of the electron emitter with the extractor aperture is not attained, each steps will be repeated from the step of sensing, and wherein if the alignment of the electron emitter with the extractor aperture is attained, all the steps will be terminated.

6(Currently Amended). A position measuring system using electron beam measurement, said system comprising:

an electron emitter[[:]];

an electron beam measuring device including a plurality of sensing regions through which the electrons of the electron beam can be electrically transmitted, and insulating portions including insulating material for prevention of the electron flow or low-doped semiconductor for reduction of the electron flow and dividing each of the sensing regions;

connecting portions for electrically conducting the electrons striking on each of the sensing regions; and

measuring portions connected to each of the corresponding sensing regions via said connecting portions and measuring the amount of the electron beam sensed in each of said sensing regions,

wherein the magnitude and the direction of misalignment of an electron beam measuring device with an electron emitter is determined by measuring and calculating the amount of the electrons on each of the sensing regions.

7(Original). The position measuring system as claimed in Claim 6, wherein said sensing regions include conductive material, such as metal or high-doped semiconductor.

8(Original). The position measuring system as claimed in Claim 6, wherein said sensing regions include p-n junctions.

9(Currently Amended). A method for measuring position using electron beam measurement, said method comprising steps of:

providing an electron emitter at a first side of an object to be measured;

providing an electron beam measuring device at a second side of the object to be measured, said electron beam measuring device including a plurality of sensing regions through which the electrons of the electron beam can be electrically transmitted, and insulating portions including insulating material for prevention of the electron flow or low-doped semiconductor for reduction of the electron flow and dividing each of the sensing regions;

sensing the electrons emitted from said electron emitter in each of the sensing regions;

verifying position of the sensing regions being in a state of sensing the electrons in said electron beam measuring device and calculating the amount of the electrons striking each of the sensing regions; and

calculating relative position of the first and the second sides on the basis of the measured data related to the position of each of the sensing regions being in a state of sensing the electrons and the striking amount of the electrons.

10(Currently Amended). An alignment method using electron beam measurement, said method comprising steps of:

providing an electron emitter at a first side of an object to be aligned;

providing an electron beam measuring device at a second side of the object to be aligned, said electron beam measuring device including a plurality of sensing regions through which the electrons of the electron beam can be electrically transmitted, and insulating portions including insulating material for prevention of the electron flow or low-doped semiconductor for reduction of the electron flow and dividing each of the sensing regions; sensing the electrons emitted from said electron emitter in each of the sensing regions;

verifying position of the sensing regions being in a state of sensing the electrons in said electron beam measuring device and calculating the amount of the electrons striking each of the sensing regions;

calculating relative position of the first and the second sides on the basis of the measured data related to the position of each of the sensing regions being in a sensing state and the striking amount of the electrons; and

moving either one of the first or second side, or both the first and second sides on the basis of the verified relative position.

11(Currently Amended). The alignment method as claimed in Claim 10, wherein the method further comprises a step of comparing the data calculated in said calculating step to previously-calculated data relating to alignment of the electron emitter with the extractor aperture, wherein if the alignment of the electron emitter with the extractor aperture is not attained, each [[steps]] step will be repeated from said step of sensing, and wherein if the alignment of the electron emitter with the extractor aperture is attained, all the steps will be terminated.

12(Currently Amended). A method for aligning an extractor aperture with [[a]] an electron emitter of the micro-column, the method comprising steps of:

sensing the electron beam emitted from the electron emitter at each of the sensing regions of the extractor as claimed in claim 2;

verifying the position of the sensing region being in a state of currently sensing electrons and the amount of the current flow;

calculating relative position between the extractor aperture and the electron emitter on the basis of the verified sensing region and the amount of the current flow; and

moving said electron emitter, said extractor, or said electron emitter and said extractor according to said calculated data.

13(Currently Amended).   A method for aligning an extractor aperture with [[a]] an electron emitter of the micro-column, the method comprising steps of:

sensing the electron beam emitted from the electron emitter at each of the sensing regions of the extractor as claimed in claim 3;

verifying the position of the sensing region being in a state of currently sensing electrons and the amount of the current flow;

calculating relative position between the extractor aperture and the electron emitter on the basis of the verified sensing region and the amount of the current flow; and

moving said electron emitter, said extractor, or said electron emitter and said extractor according to said calculated data.